i-kon-CGW

Communication Gateway

Installation and User Manual

V1.2

i-deal teknoloji™

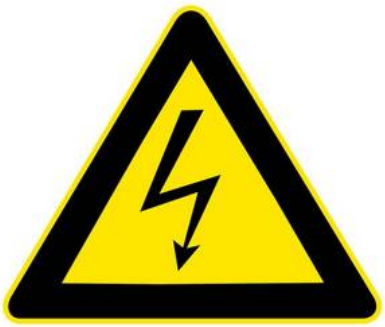
2012

IMPORTANT NOTICES

- The operator of this equipment must read and follow the descriptions in this manual.
- Wrong operation or maintenance can cancel the warranty or cause injury.
- Do not copy any part of this manual without written permission from iDeal Teknoloji.
- If this manual is lost or worn, contact your dealer about replacement.
- The contents of this manual and equipment specifications can change without notice.
- Save this manual for future reference.
- Any modification of the equipment (including software) by persons not authorized by iDeal Teknoloji will cancel the warranty.
- All brand and product names are trademarks, registered trademarks or service marks of their respective holders.

SAFETY INSTRUCTIONS

The operator and installer must read the applicable safety instructions before attempting to install or operate the equipment.



Warning: Switch-off Power Supply

Only install or remove the device when disconnected!
Before maintenance work the device shall be disconnected.

Warning: Product Installation

This equipment must be installed in accordance with the iDeal Teknoloji instructions provided. Failure to do so could result in poor product performance, personal injury, and/or damage to the station.

Safety Notice: RF Radiation Statement

Your **i-kon-CGW** generates and radiates radio frequency (RF) electromagnetic energy.

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1. What is “i-kon-CGW Communication Gateway”?

The Communication Gateway is a data transporting device that is used to transfer a data stream from source point to the destination point using IP stack. It can be used as an “end point device” for any communication system.

The Communication Gateway has two communication channels:

- ADSL channel over Ethernet connection
- GPRS connection via GSM Modem and antenna

Any data stream that is received through the specified serial port (service port), is transmitted to the destination over IP. In contrast, any data stream from the IP stack, is transmitted to the specified serial port.

This device actually has transparent behaviour for the end point device.

It also includes a switch mode regulator to supply 12V / 2A (max) DC power for a LED Lantern that can be connected to LANTERN 12V port. This power supply has two analog (voltage) signal outputs to indicate the voltage and the current of the LANTERN 12V output.

2. How "i-kon-CGW" Works?

The **i-kon-CGW** has two different operational scenarios:

When the device is switched on, it sends "ServerCheck" message to the local server from Ethernet, in 10 seconds. If the local server is used, it must be configured with an IP address as "192.168.0.100" and the UDP port 6003 must be available and not used by any other application. At the same time, the device tries to connect remote server that has "82.151.138.162" IP address with GPRS connection. If there is no problem, the device connects to the remote server almost in 60 seconds.

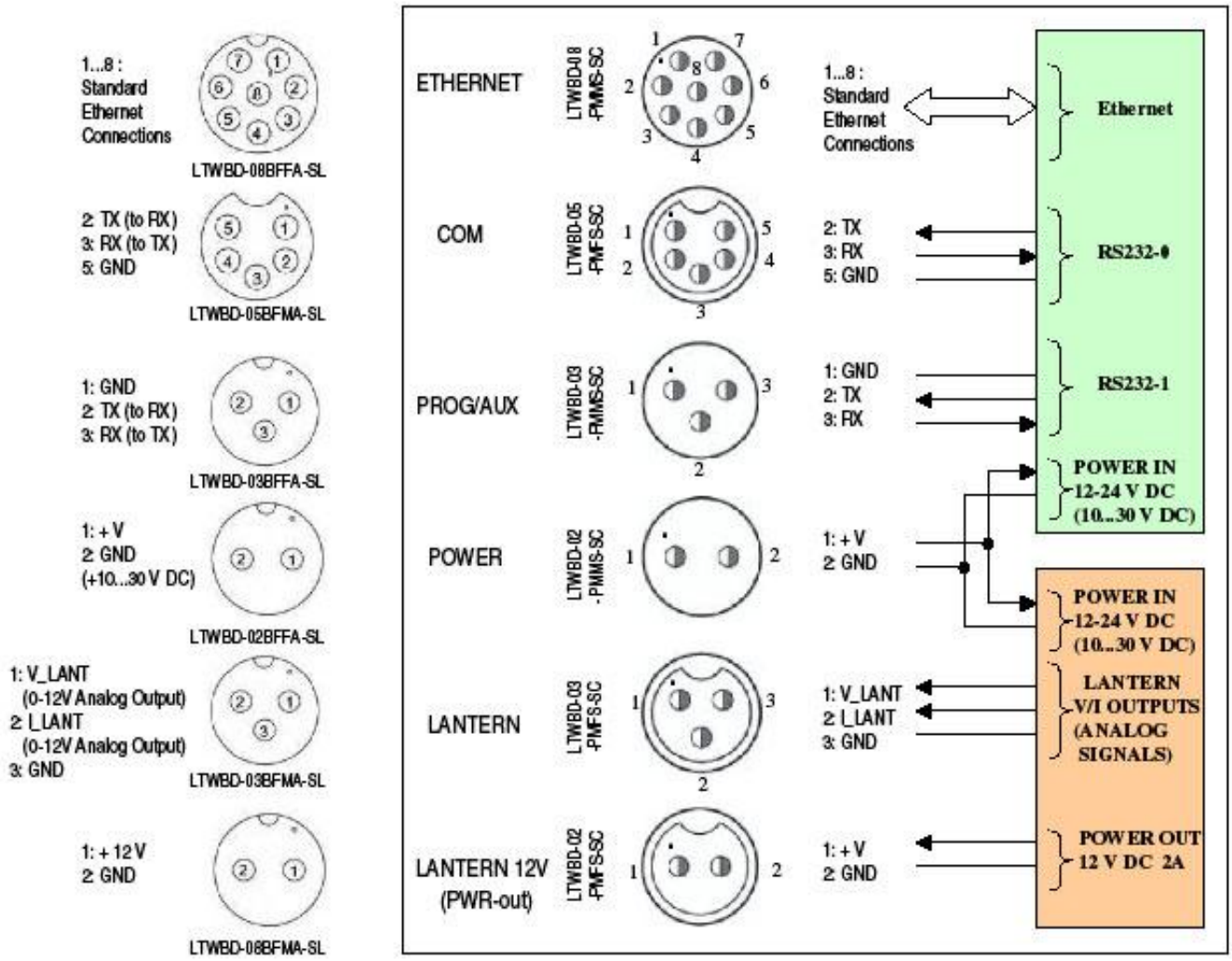
In this situation, data streams flowing can be monitored from the remote server with specific client software "iNOSS Assistant". The "iNOSS Assistant" using guide video is attached to the document.

For communication maintenance, the device send the "ServerCheck" message at every 10 seconds. After then, the device can answer any query from the server. The queries can be applied from the iNOSS Assistant.

3. "i-kon-CGW" General Information, Basic Parts and Configuration

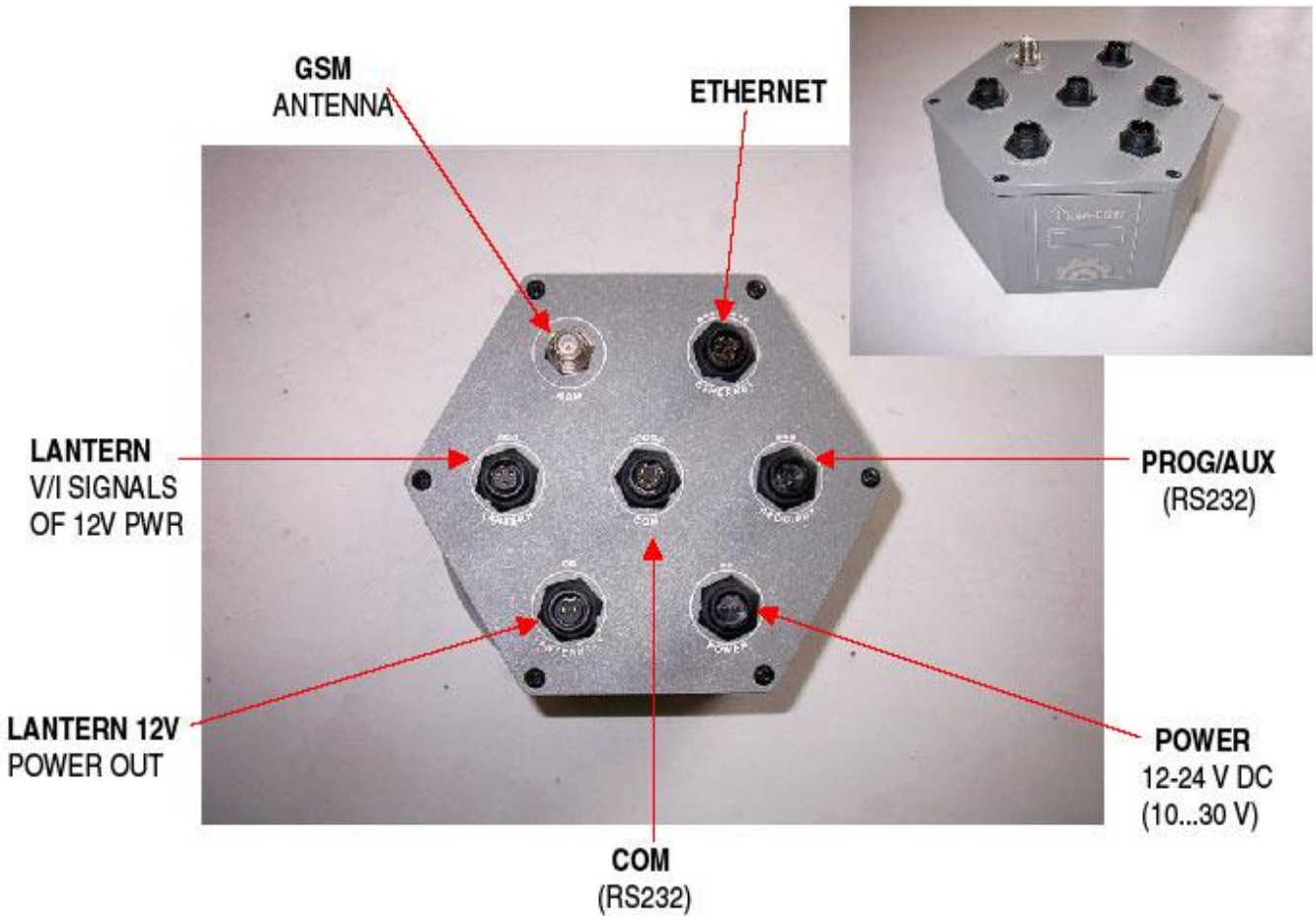
3.1. "i-kon-CGW" Electronic Interface

The connector definitions of **i-kon-CGW** is given below.



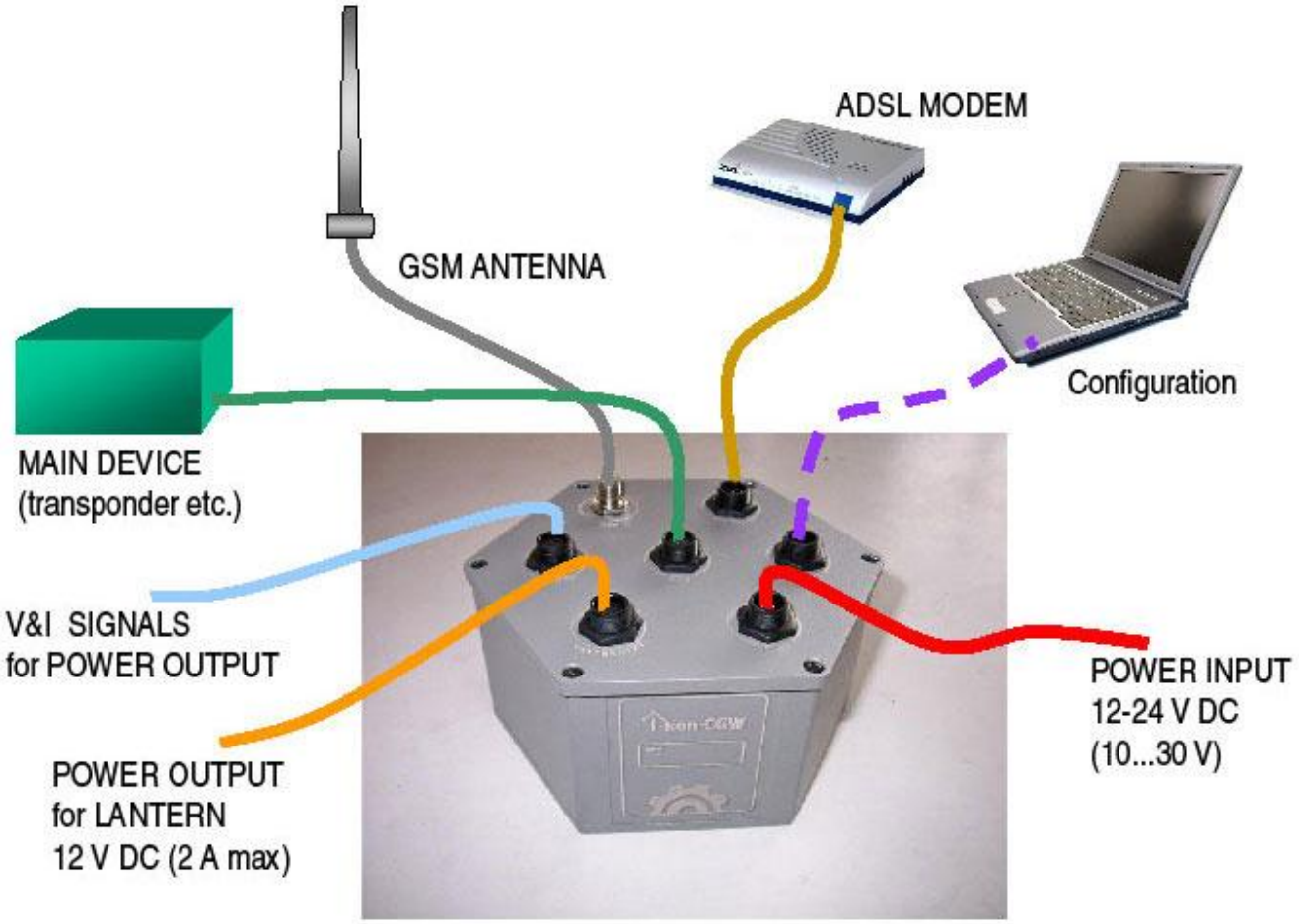
3.2. "i-kon-CGW" Connectors

The top view of **i-kon-CGW** connectors is as follows:

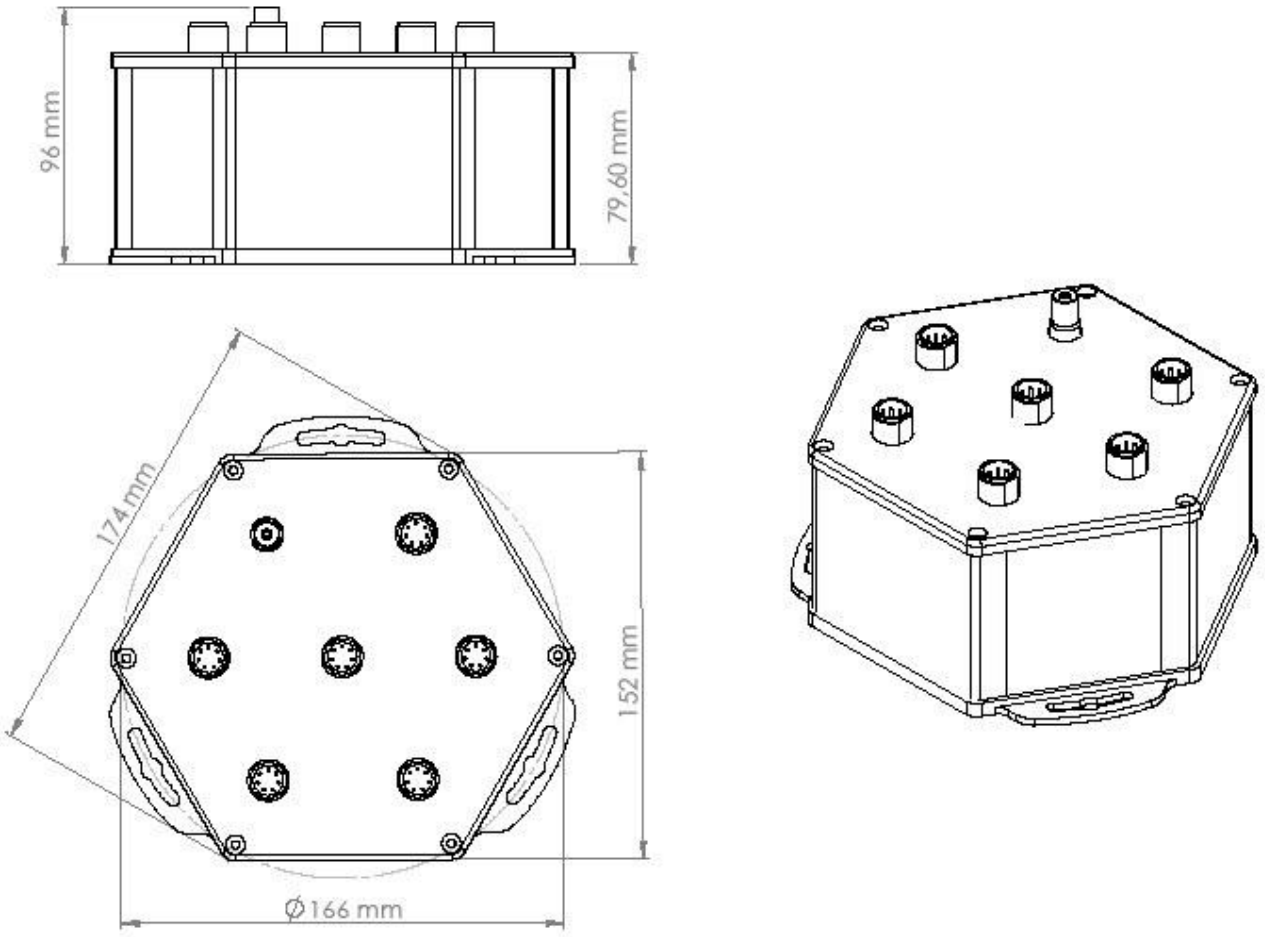


3.3. Basic Configuration

The basic configuration of the **i-kon-CGW** is as follows.



3.4. Mechanical Drawing of "i-kon-CGW"



4. Installation Guidelines

4.1. "i-kon-CGW" Installation Procedure

The **i-kon-CGW** equipment can be installed any flat surface with only three screws. The base plate of the equipment is designed for an easy installation considering the harsh environments not allow working long time.

4.2. Antenna Installation Precautions

After the fixing of screws, connection of GSM antenna and power cables is enough for a basic **i-kon-CGW** operation.

The antenna should be well removed from any major protrusions, such as buoy/light house rotating beacon engine and antenna/conductor masts. It should also be as far as practical from gear doors, access doors, or other openings that could affect its radiation pattern.

The antenna should be mounted on the maintenance ring of the buoy or light house barrier. Avoid mounting the antenna within three feet of the any other communication antenna.

If the antenna is being installed on a composite buoy/light house, ground planes must sometimes be added. Conductive wire mesh, radials, or thin aluminum sheets embedded in the composite material provide the proper ground plane allowing the antenna pattern (gain) to be maximized for optimum transponder performance.

As the received signal is very sensitive to noise and interference generated by other onboard transmitters, ensure that antenna is placed as far away as possible from racon/radar transmitters. It is also important that other transmitter antennas are kept as far away as possible from the antenna.

To meet the requirements for Radio Frequency Exposure it is necessary to install the GSM antenna correctly and operate the **i-kon-CGW** equipment according to the instructions. The table below shows suitable safety distances to other equipment.

Object Safety distance:
Radar antenna, X-band 1, 5 m (5 ft)
High efficiency engine 1 m (3 ft)
HF or VHF antennas 3 m (10 ft)
AC power cables with high currency 1 m (3 ft)

4.3. Cabling

The RF coaxial cables should be kept as short as possible to minimize attenuation of the signal. Double shielded coaxial cables equal to or better than LMR200/LMR240.

All outdoor connectors on the coaxial cables should be fitted with preventive isolation, such as shrink-stocking with silicone to protect the antenna cable against water penetration.

Coaxial cables should be installed in separate signal cable channels/tubes, and at least 10 cm away from any power supply cables. Crossing of cables should take place at right angles (90°).

Coaxial cables should not be exposed to sharp bends, which may lead to changes to the characteristic impedance of the cable. The minimum bend radius should be 5 times the cables outside diameter.

4.4. Required Tools

The basic set of tools used during the installation of **i-kon-CGW** is as given in the list below.

- Screw drivers
- Crimp tools
- Utility knife
- Socket Wrench Set
- Wrench set
- Hex Key Set
- Wire cutters and strippers

4.5. Installation Check Out

As the installation of **i-kon-CGW** is completed, the following basic points should be checked as an initial step, before the operational check out of the equipment:

- 12 -24 VDC Power connection
- GSM Antenna connection

5. Post Installation Configuration

After the installation configuration, the device is ready to test. Follow the steps.

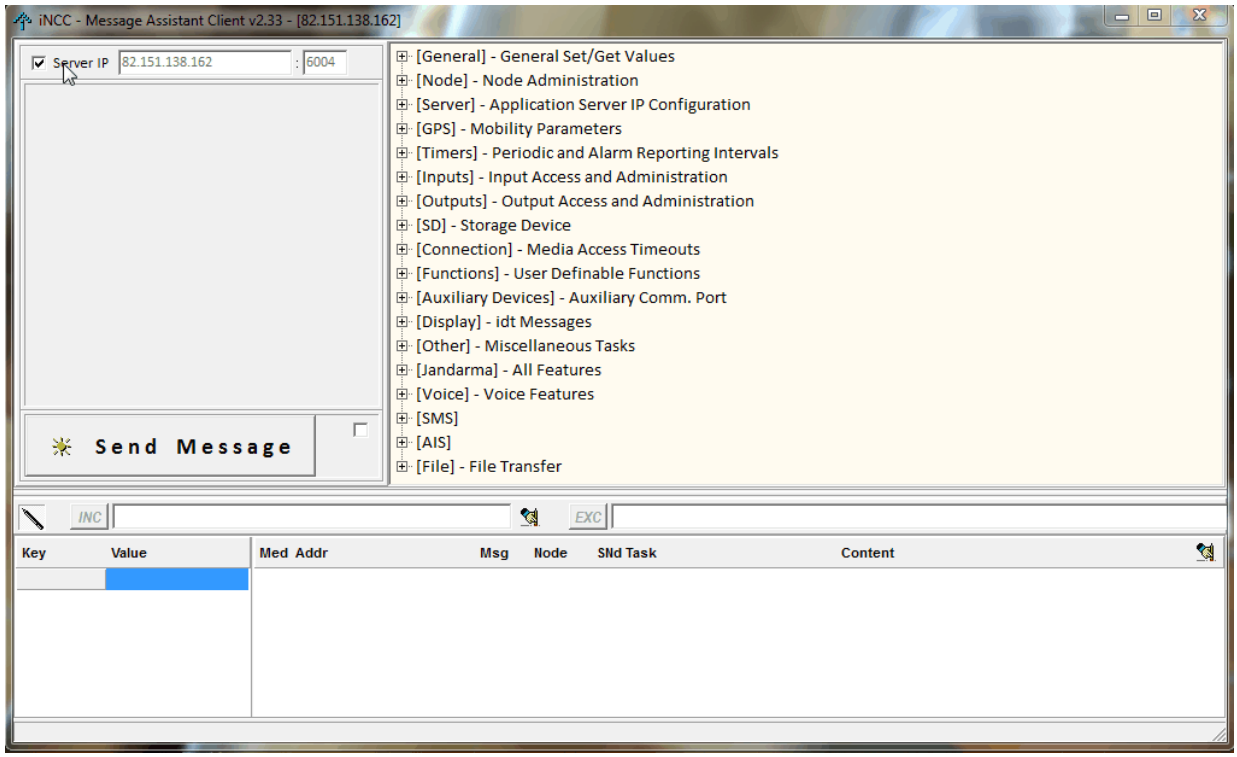
a. If local server will be used the device Ethernet cable must be connected to the external hub.

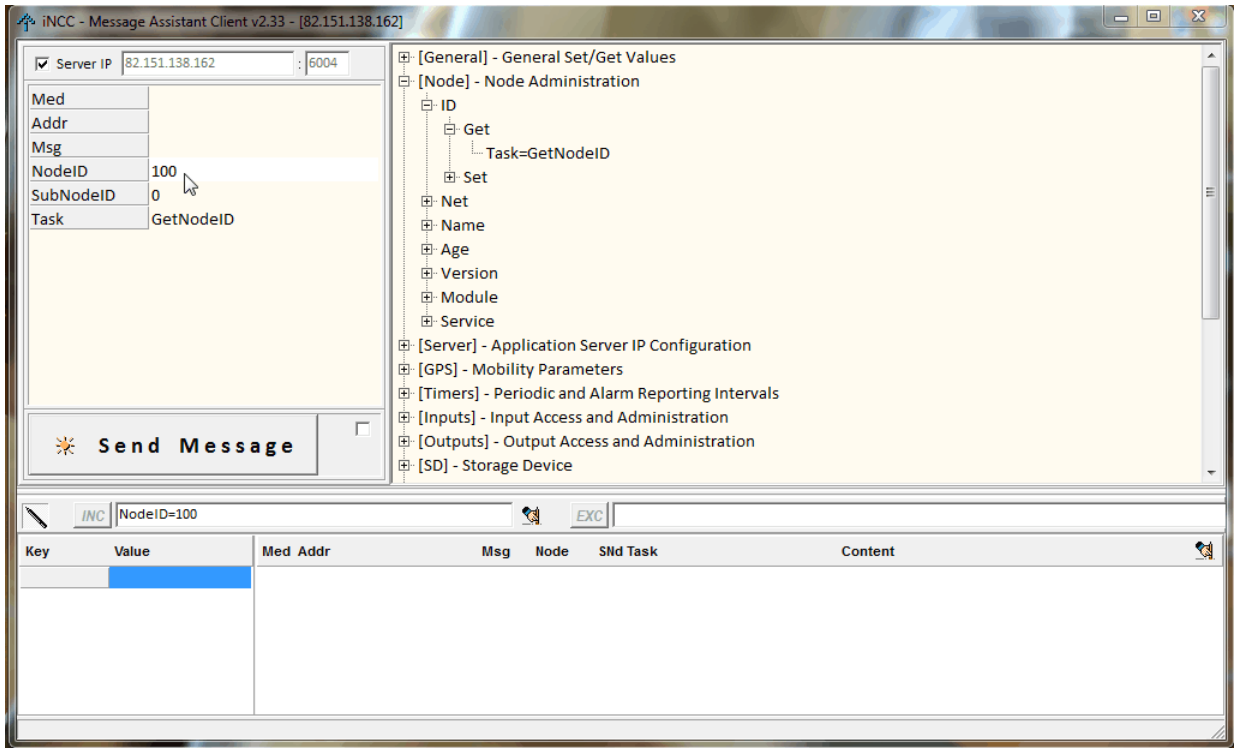
b. Using “iNOSS Assistant Using Video” prepare client software and run it.

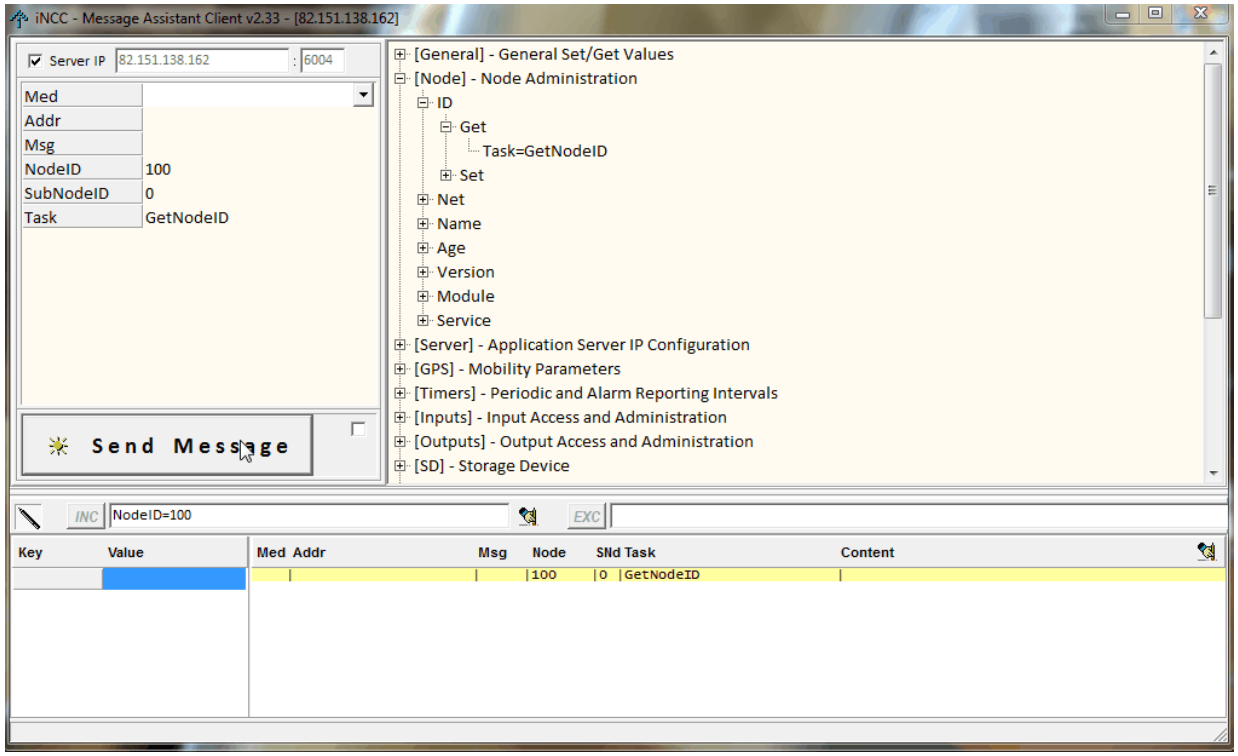
c. If everything is fine, power on the device.

d. Wait for “ServerCheck” message on the iNOSS Assistant software.

e. The message has been received communication state has started and any query can be applied from the software.




iNCC - Message Assistant Client v2.33 - [82.151.138.162]
Server IP 82.151.138.162 : 6004
Med
Addr
Msg
NodeID 100
SubNodeID 0
Task GetNodeID
Send Message
[General] - General Set/Get Values
[Node] - Node Administration
ID
Get
Task=GetNodeID
Set
Net
Name
Age
Version
Module
Service
[Server] - Application Server IP Configuration
[GPS] - Mobility Parameters
[Timers] - Periodic and Alarm Reporting Intervals
[Inputs] - Input Access and Administration
[Outputs] - Output Access and Administration
[SD] - Storage Device
INC NodeID=100
EXC
Key Value
Med Addr Msg Node SNd Task Content


iNCC - Message Assistant Client v2.33 - [82.151.138.162]
Server IP 82.151.138.162 : 6004
Med
Addr
Msg
NodeID 100
SubNodeID 0
Task GetNodeID
Send Message
[General] - General Set/Get Values
[Node] - Node Administration
ID
Get
Task=GetNodeID
Set
Net
Name
Age
Version
Module
Service
[Server] - Application Server IP Configuration
[GPS] - Mobility Parameters
[Timers] - Periodic and Alarm Reporting Intervals
[Inputs] - Input Access and Administration
[Outputs] - Output Access and Administration
[SD] - Storage Device
INC NodeID=100
EXC
Key Value
Med Addr Msg Node SNd Task Content
100 0 GetNodeID

6. Specifications

GENERAL	
Operating Temperature Range	-15ºC to +55º C
Storage Temperature Range	-30ºC to +70º C
Humidity	Up to 93% at 40ºC non-condensing
Power Supply Voltage	12V – 24V DC (max 10V – 30V DC)
Supply Current @ 12V DC	200mA nominal w/o lantern power + lantern current 4A peak (inrush current with lantern power out)
Size	152 mm x 174 mm x 95 mm
Weight	1.0kg
Connectors	GSM Antenna : TNC Male (RP) POWER, LANTERN 12V, LANTERN, COM, PROG/AUX, ETHERNET Circular Plastic Connectors
Case	AlMg0,5Si 6063
Case IP Rating	IP-66
Gateway Module	
Operating Frequency Range	Quad Band 850 / 900 / 1800 / 1900 MHz
Output power	Class 4 (2W) @ 850 / 900 MHz Class 1 (1W) @ 1800 / 1900 MHz
GPRS Class	Class 10
Lantern Power Module	
Power Supply Voltage	12V – 24V DC (max 10V – 30V DC)
Maximum Output Current	2A @ 12 V DC
Analog Outputs	Voltage Signal (= Vout) Current Signal (= 1 mV @ 1 A)
STANDARDS	
RF Spectrum (for GSM Module included)	ETSI EN 301 511 v9.0.02
EMC	ETSI EN 301 489-1 Electromagnetic compatibilityand Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC)standard for radio equipment and services; Part 1: Common technical requirements
Safety	IEC 60950-1 *Information Technology Equipment – Safety – Part 1: General Requirements*
APPROVALS	
CE Type Approval per R&TTE Directive-99/5/EC	

7. Approvals

Will be added later upon completion of process.

8. Warranty Information

All iDeal products are warranted to be free from defects in materials or workmanship for **one year** from the date of purchase. Within this period, iDeal Technologies, Inc. will, at its sole option, repair or replace any components which fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident or unauthorized alterations or repairs.

9. Contact Information

iDeal Teknoloji Bilişim Çözümleri A.Ş.

Address: Cumhuriyet Cad. Yeni Parseller Sk. No:20 K Binası Giriş Kat
Kavacık / İstanbul – TÜRKİYE

e-mail: info@idealteknoloji.com

Tel: +90-216-680 07 07

Faks: +90-216-680 07 04

Web: http://www.idealteknoloji.com